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ABSTRACT

A study was conducted at the City University of New York (CUNY) to investigate graduation and persistence over a 5-year period among students enrolled as freshmen in fall 1980, and to compare findings with a previous study of fall 1978 freshmen. The study drew from routine information on high school background; scores on CUNY skills assessment examinations in reading, writing, and mathematics; and survey data on socioeconomic background, financial resources, employment, and educational aspirations. Study findings included the following: (1) between 1978 and 1980, 5-year persistence rates remained constant at 35.5%, with a drop in graduation rates from 23.1% to 21.9% compensated for by an increase in retention from 12.6% to 13.6%; (2) persistence for students admitted to bachelor's degree (BA) programs fell from 47.0% to 46.4%, while persistence among associate degree students increased from 31.6% to 32.0%; (3) in comparison to national norms, CUNY students had lower family incomes, were more likely to work full time, and had a more extensive need for remediation in college; (4) by the end of the sophomore year, about two-thirds of the BA students, 55% of the associate degree students, and 60% of the students enrolled in special opportunity programs were still enrolled in the CUNY system; and (5) a trend toward longer periods of college attendance was evidenced by both associate and baccalaureate degree graduates, with the percentage of students taking longer than 4 years to obtain a BA increasing from 50% for 1970 freshmen to 67% for 1980 freshmen. Tables on retention and graduation rates are included for each CUNY campus. (JMC)

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Update on Student Persistence: A Report on the 1978 and 1980 Cohorts

Office of Institutional Research and Analysis
The City University of New York

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April 1989

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FOREWORD

In Spring, 1984, the Report of the University Task Force on Student Retention and Academic Performance was released. It provided a comprehensive discussion of the challenges that The City University of New York faces in adequately meeting the needs of an educationally and socially diverse student body. The Report included detailed statistical information regarding the retention and graduation rates of students admitted in Fall, 1978. The Task Force recognized the importance of establishing a data base on student persistence that would help identify the key factors affecting student achievement and provide a basis for evaluating program effectiveness.

This report provides an update on student persistence by examining in detail the 1980 student cohort and by comparing it with the 1978 cohort. Like the earlier research, various academic and social factors related to student retention and graduation are considered as are individual college data. This work should be viewed as supplementing, but not replacing, college-based research.

The group of students whose performance is examined below were enrolled prior to the development in recent years of various University and college retention initiatives. It is, therefore, unrealistic to expect marked changes in overall student performance between 1978 and 1980 entrants.

The City University has taken a variety of steps to improve student persistence following the publication of the Report. Over the past three years, various programs have been initiated which respond to the academic, economic, and social factors affecting student achievement. With strong encouragement and support of the Board of Trustees, a University-wide prefreshman summer program has been

established at each campus to support students not yet prepared for college-level work. Financial aid programs have been expanded during a period when efforts were being made outside the University to limit student aid. Child care centers have been established throughout the system. Student support services have become a major initiative in the budget request with modest success achieved recently. That these efforts must be further strengthened and expanded is evidenced by the substantial effects of academic preparation and socioeconomic factors on student performance that are documented in this research.

The University also has recognized the need to work cooperatively with the New York City public school system, which graduates most of the students who enroll in our colleges. A broad range of collaborative activities is now in place, including programs for "at risk" students and basic skills development. More recently, the University has undertaken a comprehensive initiative in teacher education in order to better prepare the school systems' future teachers. While these long-term efforts are critical, it is recognized that many of the students who will graduate from the public schools and enter the University during the next several years will not be prepared fully for college. The University must, therefore, redouble its efforts in the years to come to obtain adequate funding for the academic and student support essential to student success.

HIGHLIGHTS

This report summarizes recent findings on student retention and graduation at The City University of New York (CUNY). Five-year results for Fall, 1980 freshmen form the core of the analysis and offer an update of earlier findings. Consistent with prior reports, persistence refers to the sum of students who are either retained or graduated at a given time after entry.

Between 1978 and 1980 five-year University-wide persistence remained constant at nearly 35.5 percent: graduation rates fell from 23.1 to 21.9 percent, while retention increased from 12.6 to 13.6 percent. Persistence for students admitted to regular bachelor degree programs fell from 47.0 to 46.4 percent: graduation dropped from 29.6 to 27.3 percent, while retention grew from 17.4 to 19.1 percent. For students admitted to regular associate degree programs, persistence increased from 31.6 to 32.0 percent: graduation fell slightly from 23.3 to 22.7 percent, while retention grew from 8.3 to 9.3 percent.

These results are generally consistent with national data showing that over half of freshmen leave their first college without earning a degree. The somewhat larger percentage of students leaving CUNY -- 64.5 percent -- should be interpreted in terms of relative disadvantages facing CUNY students. As the report documents, CUNY students enter college behind their national counterparts in family income, with a greater need to work full-time, and with a more extensive need for remediation in college.

These results are also consistent with a trend in CUNY and elsewhere toward protracted graduation patterns. One-half of the students who entered a

baccalaureate program in 1970, and eventually earned a BA degree, required more than four years to graduate. By comparison, 62 percent of those entering in 1978 and 67 percent of those entering in 1980 required more than four years. We can expect that a significant number of students who have not earned a degree within the time frame of the current study will in fact do so. After five years, 27 percent of bachelor's degree students graduated. We project that 36 percent will have graduated after seven years. If we take into account degrees earned in non-CUNY institutions, we further project that over 40 percent will have graduated after seven years.

While only 12 percent of the nation's public four-year college freshmen reported a family income of less than $10,000, one-third of CUNY senior college freshmen indicated such a family income. Among public community college entrants 18 percent come from families with incomes below $10,000, compared to over one-half of CUNY community college freshmen. Similarly, while only 24 percent of freshmen nationally reported working while in school, over one-half of CUNY first-time freshmen worked while in school. CUNY students report greater need for remedial work upon college entry than do their national counterparts. While only 5 percent of all college freshmen believe that they need remedial work in reading, 17 percent of regular freshmen at CUNY senior colleges and 31 percent at the community colleges report needing such remedial work. CUNY students also report greater need for remediation in other areas of basic skills.

The analysis documents the powerful effects of college preparedness and socioeconomic background on student retention and graduation. For example, approximately two-thirds of the students with high school averages above 80 persist, compared with only one-quarter of those with averages below 70.

Students who are admitted to regular associate programs and who have a high school average of 85 or higher are more than four times as likely to graduate as those whose average is below 70. Regularly admitted bachelor's degree entrants with a high school average of 85 or above graduate at a rate five times that of those with an average below 75.

Students passing all three CUNY Skills Tests are approximately twice as likely to persist as those who pass none. Associate degree entrants who pass all three tests are two and one-half times more apt to graduate than those who pass none. Bachelor's degree entrants passing all three skills tests are five times as likely to graduate as those who pass none.

Approximately half of students from high-income families persist, compared with 40 percent of low-income students. Twice as many high-income students graduate after five years as those with low family income.

Students who are employed full-time are among the least likely to persist. Associate degree students working less than 20 hours per week are almost twice as likely to graduate as those working full-time. Bachelor's degree students working less than 20 hours are more than three times as likely to graduate as those working full-time.

Minority group status and poverty seem to set in motion a process of cumulative disadvantage that is well advanced when students enter CUNY. A multivariate analysis shows that relatively weak high school preparation and other factors associated with socioeconomic disadvantage, acting through a web of direct and indirect influences, tend to depress academic ability, achievement, and ultimately the likelihood of persistence.

In sum, this research confirms the view that prior educational and economic disadvantage are associated with significant discrepancies in college outcomes. The majority of CUNY freshmen begin college with an educational deficit that requires basic skills instruction. So long as high school preparation continues to be inadequate, retention and graduation will remain a major challenge.

Introduction

Higher education is both a social and personal investment. It holds the promise of a brighter, more productive future for students and society at large. Nowhere does this investment have more potential return than at the City University of New York (CUNY), where recent immigrants, racial and ethnic minorities, and the working class pursue upward mobility through educational achievement. Like their predecessors, today's students often represent the first generation in their families to attend college, constituting a group for whom the promise of increased opportunities is very much alive.

Not all who begin college, whether at CUNY or elsewhere, earn a degree. National data disclose that four-year institutions lose 56 percent and two-year institutions lose 73 percent of entering students within the first three years after admission (Tinto, 1986). This sizable majority leaving the initial institution is not lost to higher education altogether, since over 20 percent of those leaving one institution re-enroll at another within a year or two. Taking account of transfers and stop-outs, Tinto concludes that of each 100 students entering higher education today, approximately 41 will depart the system altogether, 45 will earn a four year degree and 14 will earn a two year degree.

Student attrition is a significant issue for most colleges and universities. An uncompleted education represents a loss for both the student and society. Moreover, each student lost to a college represents lost revenue. As a consequence, student persistence should exert a broad claim on the resources of institutions and on the attention of educational policymakers. Research will permit greater understanding of the causes of student attrition and inform policy geared to corrective action.

The material rewards of college attendance are not continuous. To earn a degree is qualitatively different from completing a number of credits. For the most part, the monetary, occupational and social benefits of higher education are contingent on having the degree in hand It follows, therefore, that a key performance measure is the graduation rate (see Jencks, 1979, Lavin and Hurtha, 1989).

Conventional wisdom holds that students in bachelor's degree programs complete their studies in four or five years, while those pursuing an associate degree earn it in little more than two years. We know, however, from our earlier analyses (CUNY, 1984; Lavin et al., 1986), as well as from national studies (Tinto, 1986), that these expectations are unrealistic. Low family income, full or part-time employment, and, in some instances, the need to care for children affect the time needed to complete a college career.

Student performance is affected by academic factors as well. Many students enter college without all of the skills necessary to proceed immediately to college-level courses. In addition, many students take fewer courses per semester than they had originally planned. Some students periodically "stop out" of school for a time or transfer to another institution. One cannot, therefore, assume that those who are not enrolled or have not graduated at the end of a four- or five-year period will not ultimately earn a degree.

As a consequence of these patterns of student behavior, properly measuring graduation and retention requires tracing student careers over a long time and throughout the higher education system. The analyses that follow address the complexities posed by extended graduation, "stop-out", and transfer.

Data and Tracking Procedures

The Office of Institutional Research and Analysis has now tracked two recent cohorts through five years: Fall, 1978 and Fall, 1980 entering freshmen. As part of a collaborative study with Professor David Lavin (CUNY Longitudinal Study of Education and Work), the Office also maintains information on the long-term graduation rates of the first entrants to CUNY's open admissions program in the early 1970s. Details from the 1978 cohort were presented as a technical appendix to the 1984 City University Report of the Task Force on Student Retention and Academic Performance. Long-term graduation rates from the longitudinal study have been published in a number of conference papers and university reports (see e.g., Lavin et al., 1986).

Data on 1980 freshmen are more extensive than on the 1978 cohort. In addition to routine information on high school background (e.g., college admissions average, number of college preparatory courses, rank in high school) and performance on the CUNY skills assessment examinations in reading, writing and mathematics, the 1980 cohort file includes pre-enrollment survey data collected in the summer of 1980 and follow-up survey information from Spring, 1981. These surveys, which elicited responses from over one-third of the class, provide information about social origins, financial resources, employment and educational aspirations.

Over eighty percent of freshmen attend CUNY full-time. We begin our tracking of the 1980 and 1978 cohorts with this contingent of full-time students and then trace their attendance through subsequent semesters, regardless of whether it is full or part-time. Indeed, many students switch to part-time status after beginning full-time. This attendance pattern is due largely to economic factors. TAP and other financial aid programs lead students to attend full-time

as freshmen. As they continue through college, students are more likely to work full-time, thereby reducing their eligibility for financial aid.

When tracking a cohort, we examine retention and graduation each year at the end of the spring semester. If the student has graduated by that time, he or she is counted as graduated. If a student was enrolled for the spring semester but has not graduated, he or she is scored as retained. If, for a spring semester, the student is neither graduated nor retained, we assign a code indicating not in attendance. Students are counted as graduates from the point of graduation onward even if they re-enroll for a second degree. Persistence is simply the total of students who are retained or graduated at a particular point in the tracking process.

We report on student persistence for the major categories of freshman admission. The University admits students to two major divisions, bachelor's and associate degree programs (henceforward abbreviated BA and AA). The SEEK program is a special opportunity program for BA admission and the College Discovery Program works similarly at the AA level. We avoid the distinction between senior and community colleges, since several colleges offer both BAs and AAs and admit students separately to each type of program.

Type of admission is a critical distinction because the criteria used to allocate students are closely intertwined with ultimate college success. For example, BA regular admission generally requires a college admissions average of 80 or better or a ranking in the upper third of the high school graduating class. By contrast, AA programs are open to all those with a high school diploma or equivalency degree. On a seat available basis, the special opportunity programs select only students who are academically ineligible for BA

admission and who are also economically disadvantaged.

We look at retention and graduation throughout the CUNY system. A student who begins at one college, transfers to another and is currently enrolled, is reported at the college of origin. The resulting system-wide rates are higher than those that would be produced by any of the individual colleges. Because of their high intra-CUNY transfer rate, the community college rates are much more affected by this procedure than are those for the senior colleges (see Appendix for college-by-college results).

Unfortunately, we cannot use our data to distinguish between those students who "drop out" of college altogether and those who transfer to a college outside of the City University system. Prior research does, however, allow us to estimate the proportion of students who transfer outside the CUNY system and go on to earn degrees. We will use the research available to draw inferences as to the likely ultimate educational destinations of the 1980 cohort.

In addition, while we include in our analyses students who "stop-out" for some intermediary semesters, we cannot account for students who may have stopped-out in the final semester of our review. Students who subsequently return will be identified as the data become available for additional years.

From the information now available we will: report in detail on the retention and graduation results for the 1980 cohort, compare year-to-year results for the 1980 and 1978 cohorts, relate more recent graduation trends to long-term rates, and, using the more extensive data on the 1980 group, investigate some of the academic and social correlates of retention. We begin with a brief profile on the 1980 freshman cohort.

Student Profile

The seventeen undergraduate colleges of the City University of New York serve primarily the graduates of New York City's public schools. These students do not fit the national profile: eighteen years old, single, white, and financially supported by their parents. CUNY students are more likely members of minority groups, are comparatively older, and often have adult responsibilities that compete with their academic ambitions.

Survey results reveal some of the ways in which CUNY entrants differ from students at colleges and universities elsewhere (See Astin, 1987). About one-fifth of students were 21 years or older at the time of admission to CUNY, compared to 3.8 percent nationally. Nationally, 12 percent of four-year public college students and 18 percent of two-year public college students reported a family income of less than $10,000. In contrast, one-third of CUNY regular senior college students and more than one-half of regular community college students reported family income below $10,000. While only 24 percent of freshmen nationally reported working while in school, over one-half of 1980 CUNY first-time freshmen worked while in school and, strikingly, one-quarter reported working mostly full-time. Nearly 13 percent of the 1980 CUNY freshman cohort were married, compared to less than 2 percent nationally. Additionally, almost 18 percent of CUNY freshmen were supporting children while going to college Approximately 40 percent of the 1980 cohort were white (compared to 86 percent nationwide), nearly 34 percent were Black (compared to 9 percent nationally), 20 percent were Hispanic (3 percent of college freshmen nationally are Hispanic), and 6 percent of CUNY entrants were Asian (compared to 1 percent nationally). Further, 58 percent of entering CUNY freshmen in 1980 were women, more than their comparable proportion of 51 percent nation-wide.

Additional comparisons of CUNY freshmen against national data demonstrate the dramatic differences in academic preparation. While only 5 percent of college freshmen nationally believe that they need remedial work in reading, 17 percent of CUNY regular senior college freshmen and 31 percent of regular community college freshmen indicate that such remedial work is required. Similarly, 21 percent of entering freshmen, nation-wide, believe that they need tutoring or remedial work in mathematics. At CUNY, 32 percent of regular senior college freshmen and 56 percent of regular community college entrants believe that they need remediation. Special program students are further disadvantaged. One-third of these students indicate that they need extra help in reading, and two-thirds of both SEEK and College Discovery students indicate a need for remedial work in mathematics. Such under-preparation depicts a student population at risk from the very point of entry to college, and requires careful consideration in any study of persistence.

Graduation, Retention and Persistence through Five Years

University-wide persistence rates remained almost constant for the 1978 and 1980 cohorts, at about 36 percent. However, the percentage who graduated within the five-year period dropped slightly, from 23.1 percent in the 1978 cohort to 21.9 percent in the 1980 cohort. The percentage change is small, and we need to track the cohorts over a longer period to determine whether the change in graduation rate represents a real decline or simply a slower pace in progress toward the degree (see Table 1).

As noted earlier, we present retention, graduation and persistence rates for four groups of students: BA regular, SEEK, AA regular, and College Discovery. Rates are calculated in the spring semester of each year after entry and taken through five years. As is evident from Table 1, five-year patterns remained stable from 1978 to 1980. In the case of both cohorts, by the end of the traditional sophomore year about two thirds of BA regular, 55 percent of AA regular and 60 percent of special program students remained in the system.

The advantage of BA regulars holds up after five years as well. By this time, 47 percent of the 1978 cohort had persisted: 29.6 percent received a degree, and 17.4 percent were still enrolled at CUNY. For the 1980 cohort, the persistence rate was 46.4: with 27.3 percent having earned a degree and 19.1 percent still enrolled. Thus, while the graduation rate over the two periods slipped slightly, the proportions still attending college after five years increased by approximately the same amount.

TABLE 1

Five Year Persistence Rates for 1978 and 1980 Freshmen Cohorts

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
BA Regular[1]	17.4%	19.1%	29.6%	27.3%	47.0%	46.4%
BA SEEK[2]	19.5	21.8	6.6	5.9	26.1	27.7
AA Regular[3]	8.3	9.3	23.3	22.7	31.6	32.0
AA College Discovery[4]	7.5	7.5	17.3	18.8	24.8	26.3
TOTAL UNIVERSITY[5]	12.6	13.6	23.1	21.9	35.7	35.5

1 BA Regular: 1978 N = 9,217; 1980 N = 7,995
2 BA SEEK: 1978 N = 3,251; 1980 N = 3,105
3 AA Regular: 1978 N = 13,583; 1980 N = 13,952
4 AA College Discovery: 1978 N = 1,566; 1980 N = 1,391
5 Total University: 1978 N = 27,617; 1980 N = 26,443

In the 1978 cohort, 26.1 percent of SEEK students persisted, including 6.6 percent who earned degrees, and 19.5 percent who continued. Persistence in the 1980 group was slightly higher, at 27.7 percent. Consistent with the pattern for BA regular entrants, the SEEK graduation rate declined marginally from 6.6 in 1978 to 5.9 percent in 1980, while the retention rate increased to 21.8 from 19.5 percent.

After five years, almost one-third of the 1980 regular AAs persisted. Like BA regular and SEEK, AA regular students show a slight drop in graduation (from 23.3 percent to 22.7 percent) and a corresponding increase in retention, from 8.3 percent to 9.3 percent. College Discovery does not fit the pattern of the other three groups. Persistence improved from 24 8 percent in 1978 to 26.3 percent in 1980. This increase in College Discovery student persistence is based on a higher graduation rate and a constant retention rate. College Discovery is the only category in which graduation increased from one cohort to the next.

While those who entered as AA regulars have a higher persistence rate than College Discovery entrants, the gap is much smaller than the gap between BA regular and SEEK students. For example, in the 1980 cohort 18.8 percent of College Discovery students graduated after five years as compared to 22.7 percent of AA regular students. In contrast, baccalaureate student graduation rates were 5.9 and 27.3 percent for SEEK and regular students respectively. These results reflect the differences in academic preparation and economic resources between SEEK students and their regular BA counterparts.

"Non-traditional" and Ultimate Graduation Rates

For the 1980 cohort, BA regular graduation doubles and AA graduation triples within one year beyond the on-time periods of four and two years. The respective rates of increase for special program students are even larger (see Appendix, Table A1).

A closer examination of the trend toward a more prolonged college career is made possible by analyzing graduation rates for various cohorts. We did this by extrapolating from the actual six through eleven year rates for the 1970, 1971, and 1972 cohorts (see Lavin et. al., 1984). We took the rates of increase from the earlier cohorts and then applied those to the actual five-year base for the later groups, making the assumption that few if any degrees are added after eleven years. Charts 1 and 2 depict the trend and provide a detailed forecast for the 1980 cohort.

The trend toward protracted graduation patterns, which was documented in earlier research, continues in the later cohorts and is discernible between 1978 and 1980 (see Chart 1). In the 1970 freshman cohort, half of the BA students who graduated took longer than four years. For the 1978 cohort this proportion had grown, so that 62 percent of graduates can be defined as "non-traditional". This trend continued for the 1980 cohort graduates, more than two-thirds of whom took longer than four-years to earn a degree.

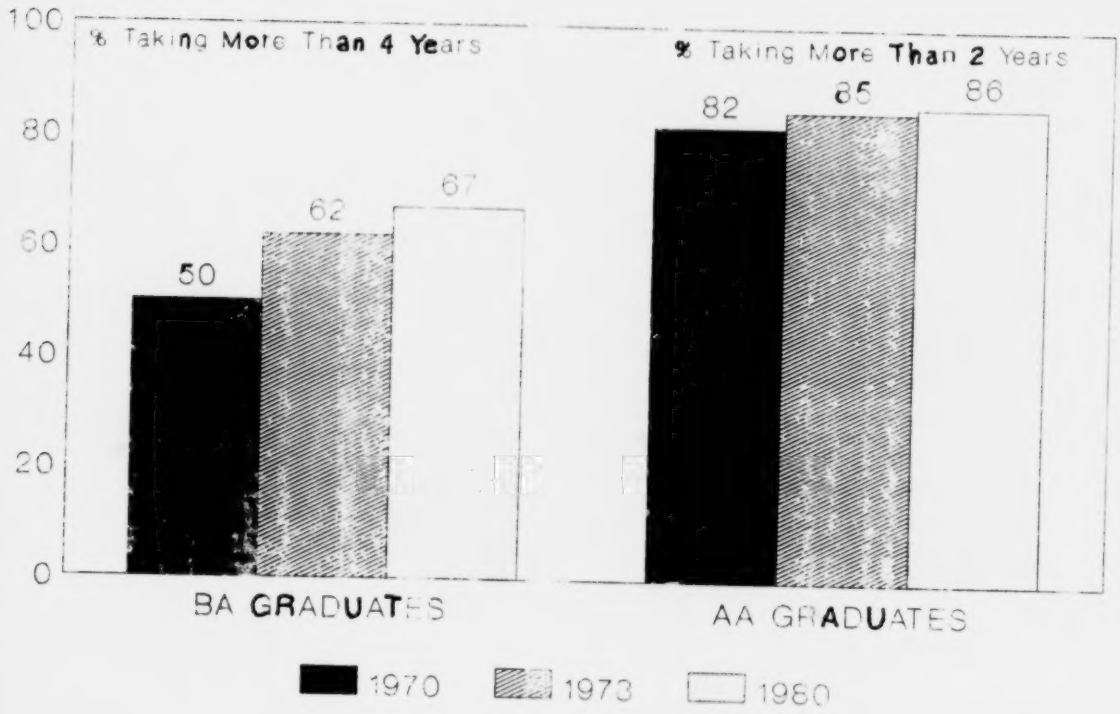
AA graduates demonstrated an even more extended path to a degree than BA students. Eighty-two percent of those students from the 1970 cohort who earned a degree took longer than two years. This figure increased gradually for the two later cohorts, with 85 percent and 86 percent respectively taking a "non-traditional" route to graduation. Some of these community college students

transferred into baccalaureate programs without earning an AA en route. However, many take longer to earn an associate degree due to the exigencies of attending to families or working full-time, or problems associated with lower academic performance.

For CUNY students, whether they are BA or AA, it is becoming increasingly unusual to finish a degree within the traditional time frame. Today's CUNY graduation patterns necessitate long-term research. Further, allowing for longer time to graduation notably reduces the gap in graduation rates between the earlier and later cohorts.

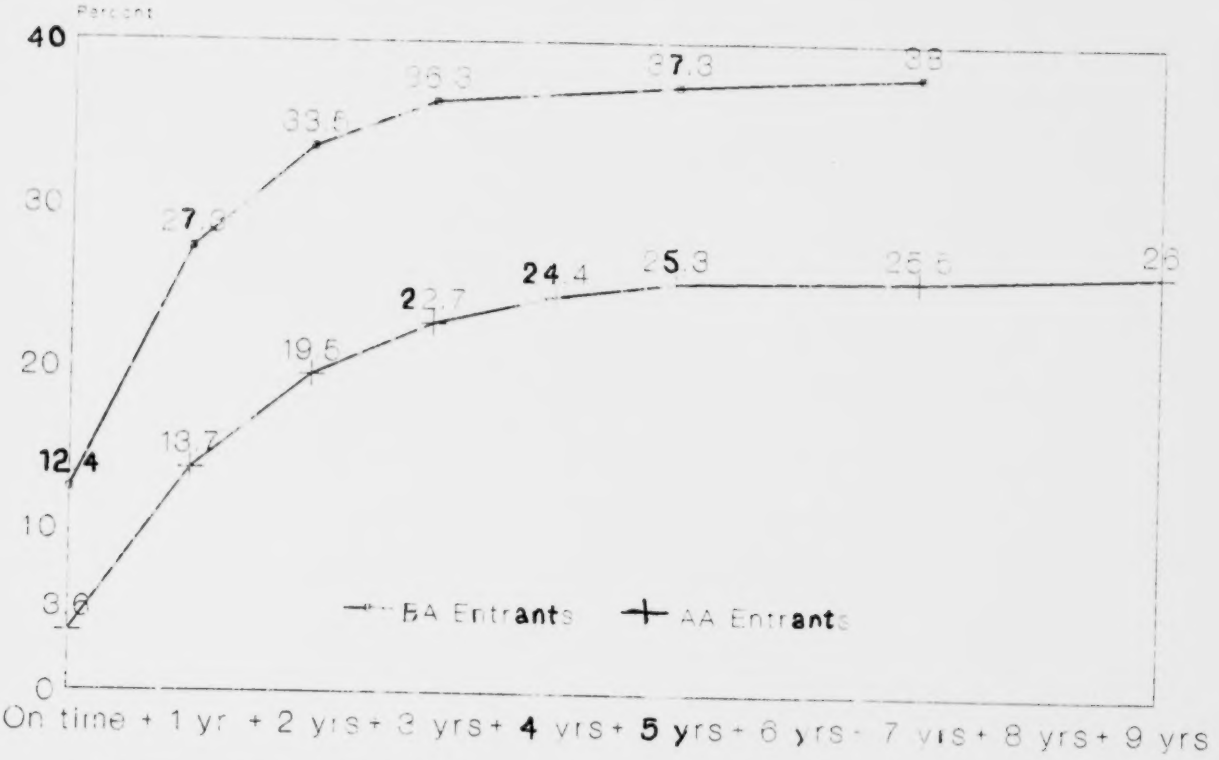
We project that graduation rates for the 1980 cohort will continue to climb from the five-year rates described above (Table 1). We estimate that after seven years the BA rate will have climbed from 27.3 percent to 36.3. And, we expect an increase from 22.7 percent after five years to 25.3 percent after seven years for AA degree recipients. The rate of increase for the AAs in the later years is lower since on-time graduation is, by definition, a shorter period (Chart 2).

CHART 1
TRENDS IN GRADUATES TAKING ADDITIONAL TIME TO EARN DEGREES



• Figures in the chart reflect the percentage of regular graduates who took more than 4 years to earn a BA or more than 2 years to earn an AA. The graduation rates for the 1978 and 1980 cohorts were projected by using the longitudinal data collected on the 1970-71 cohorts. These projections are based on the rate of increase each year for the 1970-71 cohort, applied to actual rates in earlier periods for the 1978 and 1980 cohorts.

CHART 2
LONG TERM CUNY GRADUATION RATES
1980 ENTRANTS*



* The graduation rates for the 1980 cohort were projected by using longitudinal data collected on the earlier 1970-71 cohorts. These projections are based on the rate of increase each year for the 1970-71 cohort, applied to actual rates in earlier periods for the 1980 cohort.

Transfer and Graduation Outside the CUNY System

Since they do not reflect transfers to non-CUNY institutions, our persistence rates understate the true attainments of the 1980 cohort. As documented in the Task Force Report (CUNY, 1984) and corroborated by Tinto (1986), it is inappropriate to conclude that all those who leave CUNY are lost to higher education. In fact, a survey of students who left the CUNY system between 1980 and 1981 revealed that approximately 16 percent re-enrolled in non-CUNY colleges within one year of their departure. Ignoring these transfers to non-CUNY institutions significantly underestimates graduation. For example, in a follow-up survey of students, Lavin et al. (1986) found that 13 percent of BA degrees and 7 percent of AA degrees earned by CUNY freshman classes were completed outside the CUNY system. Using the Lavin findings to provide an estimate of non-CUNY graduates would increase the graduation rates in Chart 2 from 38 to 43 percent for BA entrants and from 26 to 28 percent for AA entrants.

Only complete educational biographies for the 1980 CUNY freshman cohort would permit us to document fully the varied paths to graduation and the destinations of those who do not finish. Graduation rates will improve significantly if the educational progress of the 1980 cohort, like that of earlier CUNY cohorts, is tracked over an extended period and throughout the higher educational system, including non-CUNY institutions.

Academic and Social Factors and Persistence

In this section, we report briefly on the student characteristics that are associated with college retention and graduation. Special program students are not included in these analyses because they are, by definition, academically and economically disadvantaged. We summarize the various factors associated with persistence. In the following section we will explore the educational process

leading to persistence and graduation and attempt to identify the unique contribution of each factor in this process.

Academic Factors

CAA

A high college admissions average (CAA) is associated with persistence for both BA and AA students (see Tables 2 and 3). As the CAA goes up, so does the likelihood that students persist at CUNY. In fact, students with an 85 or higher average in high school are almost twice as likely to persist after five years in college, and are about five times as likely to graduate as students whose CAA was less than 75. Almost two-thirds of students with a high CAA persist, while only one in four with a CAA lower than 70 either graduate or remain after five years. While 44 percent of the BA entrants with a CAA of 85 or above graduated, only 8 percent of those admitted with a CAA of less than 70 graduated. In addition, BA entrants with a CAA of 95 or more are almost twice as likely to graduate as those who enter with an average between 80 and 85. At the AA level, a CAA of 85 or above makes graduation much more likely-- the rate climbs to close to 60 percent. Although the relationship between CAA and persistence is striking in Tables 2 and 3, analyses not presented here (see CUNY, 1984) demonstrate that even students in the lowest category of high school achievement persist if they perform well in college.

High School Academic Units

The same relationship holds between the number of academic units earned in high school and college persistence. Academic units are the number of full-year academic courses taken in high school. A high score reflects broad exposure to college preparatory work. Only about one-quarter of the students with 7 or fewer earned units persist, compared to 55 percent of the BA and 42 percent of

the AA students with more than 12.5. Further, BA entrants having more than 12.5 academic units are four times as likely to graduate as those with 7 or fewer units, and are almost twice as likely to graduate as those with more than 7 but less than 12.5. Among AA entrants, those who earned more than 12.5 units graduate at nearly twice the rate of those with 7 or fewer academic units.

Skills Tests

The number of skills tests passed at entry also directly correlates with graduation and persistence. While about 15 percent of AA entrants failing all three skills assessment tests graduated, 38 percent of those who passed all three tests graduated. Among BA entrants the difference is even more marked, with 8 percent of those who failed all three tests graduating after five years, compared to 39 percent of those who passed all three tests. University-wide, only a little more than one-fourth of those who failed all three skills tests persisted.

GPA

An important predictor of success at college is the GPA. The majority of students with a high college GPA persist. Seventy one percent of the BA students and 64 percent of the AA students with a GPA of 2.5 or better persisted after five years. Over 50 percent of both AA and BA entrants with a GPA between 2.0 and 2.49 persisted after five years. Persistence rates are lowest for BA and AA students with college grades of less than 2.0-- only about ten percent of these students persisted. Patterns at the associate level closely mirror those at the baccalaureate level-- a GPA less than 2.0 is associated with high attrition and one above 2.5 coincides with high persistence.

TABLE 2

Academic Factors and Persistence After Five Years For BA Entrants*

College Admission Average	Retained	Graduated	Persisted
85 or above	16.2%	44.4%	60.6%
80.0 - 84.9	20.8	24.5	45.3
75.0 - 79.9	21.1	18.8	39.9
70.0 - 74.9	22.2	9.1	31.3
less than 70.0	20.7	8.3	29.0
High School Academic Units			
More than 12.5	18.6	36.3	55.1
7.1 - 12.5	21.3	19.6	40.9
7 or fewer	18.8	9.3	28.1
Skills Tests Passed			
3	16.7	38.9	55.6
2	21.8	25.3	47.1
1	23.8	17.0	40.8
0	20.7	7.7	28.4
GPA			
2.5 or better	16.8	53.7	70.5
2.00 - 2.49	36.2	18.6	54.8
less than 2.00	12.0	0.5	12.5

*Includes only regular program students in the 1980 cohort.

TABLE 3

Academic Factors and Persistence After Five Years For AA Entrants*

	Retained	Graduated	Persisted
College Admission Average			
85 or above	5.5%	58.9%	64.4%
80.0 - 84.9	6.8	43.3	50.1
75.0 - 79.9	9.5	32.5	42.0
70.0 - 74.9	10.1	22.3	32.4
less than 70.0	9.9	14.4	24.3
High School Academic Units			
More than 12.5	9.7	32.3	42.0
7.1 - 12.5	8.7	26.7	35.4
7 or fewer	9.6	17.2	26.8
Skills Tests Passed			
3	7.9	38.0	45.9
2	8.7	31.8	40.5
1	9.4	23.0	32.4
0	10.8	14.6	25.4
GPA			
2.5 or better	8.6	54.8	63.4
2.00 - 2.49	14.8	35.3	50.1
less than 2.00	7.5	1.9	9.4

*Includes only regular program students in the 1980 cohort.

Social Factors and Persistence

In addition to high school preparation and grades and academic achievement in college, a number of socioeconomic characteristics also contribute to college persistence and graduation. Table 4 summarizes these relationships for AA entrants, and Table 5 gives them for BA students.

Income

Family income is directly associated with persistence and contributes to the gap between AA and BA entrants. Over two-thirds of AA entrants fall into the low-income category (family income below $12,500) as compared with 44 percent of the BA entrants.

Among BA students, persistence increased from 45 percent in the lowest income group to 53 percent in the highest income group (family income above $25,000). At the associate level, the five-year persistence rate similarly increased from 33 percent for those with low income to 45 percent in the highest income group.

The graduation rates are dramatically affected by income. They almost double, increasing from 22 percent in the lowest income group to 39 percent in the highest income group for BA students, and from 21 percent to 37 percent for AA level students. At the very least, lower income students require more time to complete degrees than students with higher family incomes.

Consistent with national data, CUNY survey results show that low income students also are more likely to be: members of minority groups, students engaged in full-time employment, children of parents with little higher education, graduates of inadequate high schools, and individuals with low self-esteem and a lack of career goals (see, e.g. Valverde, 1985).

Race/Ethnicity

Blacks and Hispanics are less likely to persist than are whites and Asians (Tables 4 and 5). At the BA level, over half of white and Asian students persist after five years, as compared to roughly 40 percent for Black and Hispanic students. In addition, whites and Asians are more than twice as likely to graduate as Black and Hispanic students. Among AAs the pattern holds, only here the Asians do best. While they graduate in proportions similar to those of white students, they are two and one-half times more likely to be retained after five years. This high persistence is probably a reflection of a high transfer rate into four-year programs.

Gender

Female students are more likely to graduate than male students and, consequently, show higher persistence rates, regardless of level of study. At the BA level, one-third of the females graduated, and over one-half of the females persist, compared to 24 and 46 percent, respectively, for males. Among AA students, 38 percent of the females and 32 percent of the males persist after five years. At the AA level, where males and females are retained at approximately the same rate, the difference is almost exclusively explained by higher graduation rates, 28 percent for females and 21 percent for males.

Public Assistance

Students who report living in a family on public assistance are less likely to persist in college than those who are not from such families (see Tables 4 and 5). While one-half of the BA students who are not on public assistance persist after five years, only 3 out of 10 of those on public assistance do. At the AA level, this trend holds, with 37 percent of those students without public

assistance persisting, compared to 29 percent of those with assistance either graduating or continuing after five years. These differences are, however, reflected entirely in graduation rates. There is no difference between those on public assistance and those without assistance in retention.

Employment Status

Working full-time is associated with lower persistence (see Table 3). It is not possible in the current analysis to separate the influence of larger socioeconomic conditions from the issue of working itself. Having limited financial resources, being older, and supporting children or a spouse all lead students to work full-time. Whatever the reasons for extensive outside employment, only one in three students who work full-time persist. In contrast, over one-half of the BA students and 43 percent of the AA students who report not working at all persist after five years. Students who work part-time or not at all are much more likely to graduate after five years than students who work full-time.

Interestingly, our data show that students working less than 20 hours per week are more likely to persist than students who do not work at all. The analysis does not, however, permit any firm conclusions concerning the impact of limited employment on persistence.

TABLE 4

Social Factors and Five Year Persistence for BA Entrants*

	Retained	Graduated	Persisted
FAMILY INCOME			
less than $12,500	22.6%	22.2%	44.8%
$12,500 - $24,999	19.6	31.8	51.4
$25,000 or more	14.0	39.4	53.4
RACE/ETHNICITY			
White	14.7	39.9	54.6
Black	25.7	17.5	43.2
Hispanic	24.4	15.6	40.0
Asian	20.8	33.5	54.3
Gender			
Male	22.1	23.5	45.6
Female	18.3	33.7	52.0
FAMILY ON PUBLIC ASSISTANCE			
Yes	18.7	10.8	29.5
No	19.8	31.1	50.9
EMPLOYMENT STATUS DURING FIRST YEAR			
Not working	21.4	34.5	55.9
Working less than 20 hrs/wk	19.8	40.4	60.2
working 20 - 34 hrs/wk	20.7	32.4	53.1
working full-time	21.1	11.8	32.9

* Includes only regular students in the 1980 cohort.

TABLE 5

Social Factors and Five Year Persistence for AA Entrants*

	Retained	Graduated	Persisted
FAMILY INCOME			
less than $12,500	11.6%	21.4%	33.0%
$12,500 - $24,999	9.8	29.5	39.3
$25,000 or more	8.2	36.7	44.9
RACE/ETHNICITY			
White	7.1	34.2	41.3
Black	12.1	21.4	33.5
Hispanic	11.7	18.8	30.5
Asian	18.5	31.2	49.7
Gender			
Male	11.2	20.6	31.8
Female	10.2	27.8	38.0
FAMILY ON PUBLIC ASSISTANCE			
Yes	10.8	17.8	28.6
No	10.6	26.7	37.3
EMPLOYMENT STATUS DURING FIRST YEAR			
Not working	10.6	32.0	42.6
Working less than 20 hrs/wk	11.5	38.0	49.5
working 20 - 34 hrs/wk	10.1	27.5	37.6
working full-time	13.3	21.2	34.5

* Includes only regular students in the 1980 cohort.

A Multivariate Analysis of Persistence and Graduation

To this point, we have discussed the separate relationships of each of a number of student characteristics and behaviors with persistence and graduation. These bivariate relationships can be misleading, however, because they do not reflect the unique impact of each predictor on educational outcomes apart from that of other predictors. We have established, for example, that blacks and Hispanics are less likely than whites to persist and graduate, but we have not determined what it is about minority students that contributes to their academic difficulties. Blacks and Hispanics are more likely than whites to come from low-income families, enter college with poor high school grades, complete fewer units of academic course work in high school and pass fewer skills tests on entry to the University. As we have just reported, in addition to minority status, each of these characteristics is associated with persistence and graduation. It is quite possible that the academic difficulties of minority students can be explained partly or entirely in terms of deficits on these variables. Similarly, the differences in persistence and graduation that we have found between the sexes, the poor and affluent, and between students who receive welfare support and those who do not may be explained in part by differences on still other factors such as high school background, academic ability, or college grades.

In order to establish the unique influence on persistence and graduation of each of the academic and social factors discussed in the previous section of this report, we have conducted a series of multivariate analyses. This statistical technique allows us to assess the degree to which each of a number of factors uniquely influences academic outcomes, holding constant all of the other

predictors.

These predictors can be arranged roughly in temporal order. Students are born with certain traits such as gender and race and begin their education with others, such as family income or welfare dependence. These aspects of social origins and others associated with them affect high school preparation and achievement, which we have measured in terms of the number of academic units earned and grades. Social origins and high school preparation in turn influence the degree to which students have been able to develop their academic abilities by the time they enter college. We have measured academic ability in terms of the number of skills tests passed. Students' performance in college is greatly influenced by preceding experiences associated with social origins, by high school preparation, and by ability. In addition, students often must balance a number of demands, such as those of work, against those of the classroom. Full-time work, as we have seen, is especially likely to force or entice students to interrupt their studies. All of these factors affect how well students do in their course work, itself a major determinant of persistence and graduation.

We begin by assessing the impact of social origins on high school preparation. Table 6 shows the net influence of gender, race, welfare dependency, and family income on high school average and total academic units earned. Among both BA and AA entrants, women earn slightly better high school grades than men, all other factors held constant. Compared to whites, blacks at both levels receive substantially lower grades and complete fewer academic units. The high school average of black BA entrants is about 4 points lower than that of whites, and blacks complete 2.4 fewer academic courses. Likewise, Hispanic BA entrants suffer deficits in both grades and academic course work, but to a lesser extent

than blacks. Although welfare dependency has little unique impact on either outcome, low family income does have a net effect, particularly among AA entrants: compared to students whose family earned more than $25,000 in 1980, those in lower income categories tended to earn slightly lower grades and units. These statistics make it clear that even before they enter CUNY, members of minority groups and low-income families have already lost ground in what will become a process of cumulative disadvantage.

Table 7 shows the next step in this process. In addition to the social origins variables that we used to predict high school outcomes in Table 6 we have controlled for high school average and the number of academic courses taken, in order to predict academic ability on entry to CUNY (as indicated by the number of skills tests passed). Among both AA and BA entrants, members of minority groups, including Asians, pass fewer tests than comparable whites, and low-income students are outperformed on the tests by high-income students. Not surprisingly, high school average and academic course work are powerful predictors of academic ability. At both levels the higher a student's secondary school grades and the greater the number of college preparatory courses completed, the greater the number of skills tests passed, on average.

Minority and low-income students suffer a double disadvantage by the time they enter CUNY. Table 6 showed that these students tend to complete fewer academic courses and earn poorer grades in high school than more advantaged students. Table 7 makes it clear that partly because of these deficits, they also pass fewer skills tests on entry to CUNY. Moreover, even when they are matched statistically with others on the basis of grades and courses, poor and minority students score lower on their skills tests, for reasons that we cannot ascertain from our data.

Academic ability, as measured by performance on the skills tests, in turn predicts college achievement. Table 8 indicates that among BA entrants, writing and math skills are correlated with college grades, and in AA programs, math ability has an even larger impact on grades than at the BA level. On average BA students who were 10 points apart on their first math skills test earned cumulative GPAs that differed by about a tenth of a letter grade, while among AA entrants a comparable difference in math skills produced a GPA difference of about a third of a letter grade. In addition, two of the same factors that influence performance on skills tests have a separate impact on college grades--race/ethnicity and high school grades. At the BA level, blacks and Hispanics suffer a deficit of about a fifth of a letter grade compared to whites and Asians with similar high school preparation and academic ability. High school grades are the most powerful influence on college grades: students who entered AA or BA programs with a high school average of 85, for example, earned GPAs averaging .4 of a letter grade higher than students whose high school average was 75. Academic course work in high school has little direct impact on college grades, but it does affect academic ability (that is, the number of skills tests passed), which directly influences grades.

In Tables 9 and 10 we can see the ultimate impact of these disadvantages on the likelihood of persistence and graduation. In both tables we have added GPA to the predictors included in previous tables. More than any other factor, college grades determine whether students remain in school and whether they graduate. Students who do not meet minimum academic requirements may be forced to withdraw, and others who perform poorly may become discouraged and discontinue their studies. As a result, in BA and AA programs, a letter grade is associated with 26 and 20 percentage-point differences in the likelihood of persistence,

respectively, and 19 and 17 percentage-point differences in the probability of graduation after 5 years. BA entrants with a 3.5 GPA, for example, are 19 percentage points more likely to graduate than students with a 2.5 GPA.

Most other factors--social origins, high school preparation, and performance on skills tests--have little or no direct impact on persistence. Full-time work creates a modest impediment to persistence at both levels, and good high school grades improve the odds of persistence among AA entrants. Graduation within five years, however, is associated with several additional variables, including full-time work, gender, race/ethnicity, and high school grades.

After college grades, easily the greatest influence on a student's chances for graduation is full-time work. Students who are employed full-time not only must divert a substantial amount of time and energy from their studies but also are more subject to the influence of peers who are not students and to the lure of job opportunities that may bring an early end to their academic career. Full-time work thus tends to compete with the role of student and hinder integration into the academic and social life of the campus. As a result, at the BA level full-time workers are almost 17 percentage points less likely to graduate than students who work part time or who do not work, while in AA programs the deficit is about 14 percentage points.

In addition to full-time work, a few other variables are associated with graduation after 5 years. Female BA entrants are almost 6 percentage points more likely than comparable men to have earned a BA 5 years after entering, a result that can only partly be explained by the fact that women tend to earn higher grades than men, both in high school and at CUNY. Hispanics in both BA and AA programs are a little less likely to graduate than comparable whites, and

at the AA level, Asians are slightly disadvantaged as well. In addition to these social origins variables, high school preparation also appears to affect prospects for graduation. Long after graduation from high school, the quality of students' performance there continues to affect educational outcomes. Even controlling for college grades, a difference of 10 points in high school average is associated with a 6 percentage point improvement in the odds of graduating from a BA program and a 7 point improvement at the AA level. In addition to their direct impact on graduation, high school grades, gender, and race/ethnicity also exert an indirect effect. As we demonstrated in Table 8, these factors influence college grades, which in turn powerfully affect the likelihood of graduation.

The gender and race/ethnic differences in graduation that we have identified in Table 10 may be due in part to additional factors that we have found to be associated with graduation, but which have not been controlled in this analysis. It is possible that men and women and racial groups may differ from one another in terms of degree aspirations, confidence in their academic abilities, in their likelihood of having a vocational orientation to higher education, and in the curricula in which they choose to enroll. In addition, high school quality probably varies, particularly among racial/ethnic groups, affecting educational outcomes. Finally, it is important to keep in mind that this study has measured graduation rates over a relatively short period of time-- 5 years. As we mentioned earlier, Lavin and his colleagues (1984) found that the graduation rate rises as the period over which it is measured is extended. Because members of minority groups tend to complete their degrees relatively slowly, their graduation rates more closely approximate those of whites if the period of assessment is extended. It is quite possible that one or more of these factors accounts for some of the observed group differences in graduation.

Another factor that we have not considered in this report is the environment of the college which the student attends. Colleges differ in the scope and quality of the support that they provide to academically at-risk students and in terms of other influences on educational attainment. Any analysis of such college effects on educational outcomes must be undertaken with care, however, since the CUNY colleges may also differ from one another in terms of the characteristics of their students. Some institutions attract a disproportionate share of students who are disadvantaged in terms of the correlates of academic success. We would expect higher attrition rates at those colleges that serve a disproportionate share of students who have relatively weak high school preparation and academic skills. Future analyses by this office will distirguish the influence of each college environment on persistence and graduation from that of the characteristics of the students who attend the college.

As Alexander Astin (1982) has pointed out in a study based on national data, by the time many disadvantaged students enter higher education, they already have been affected by problems encountered earlier in the education pipeline, in the primary and secondary schools. We have seen evidence of such problems in the weaker high school backgrounds with which poor and minority students enter CUNY, at both the two-and four-year levels. These deficits set in motion a process of cumulative disadvantage that frequently ends in failure to persist. Lower high school grades and fewer college-preparatory courses in high school are associated with relatively weak academic skills, which in turn hurts grades, a powerful predictor of persistence and graduation.

The disadvantages associated with poverty and minority status cannot be

explained entirely in terms of the ramifications of poor grades and fewer preparatory courses, however. Even when members of minority groups and the poor are matched statistically with more advantaged students who had high school records of equal quality, disadvantages persist in performance on skills tests. More research needs to be done to identify what correlates of poverty and minority status explain these deficiencies. Given the cumulative nature of academic problems, it is clear that students who have weak high school records should enter programs designed to increase their capacity to do academic work early, either on entry to CUNY or even before. The foregoing report has documented the degree to which improvements in academic ability can improve grades and ultimately the likelihood of persistence and graduation.

TABLE 6

Net Influence of Social Origins on High School Average and Number of Academic Units Earned, by Level of Entry

PREDICTORS	BA REGULAR ENTRANTS		AA REGULAR ENTRANTS	
	High school Average	Total Academic Units	High school Average	Total Academic Units
Women (compared to men)	+1.5*	+ .3	+2.1*	+ .4*
Blacks (compared to whites)	-4.1*	-2.4*	-3.1*	-1.8*
Hispanics "	-1.7*	-1.9*	0.0	-1.5*
Asians "	+ .2	-1.0*	- .2	-1.7*
On Welfare	- .7	- .5	.4	- .7*
Family Income below $12,500 (compared to above $25,000)	- .1	-1.1*	-1.2*	-1.8*
Family income between $12,500 and $25,000 (compared to above $25,000)	- .6	- .2	- .6	- .9*

* The difference between the group shown in the predictor column and the relevant comparison group is statistically significant.

Note: This table, as well as Tables 7 to 10, are based on multiple regression analyses, in which gender, race/ethnicity, welfare dependency, and family income are dummy variables, and the statistics reported are unstandardized regression coefficients. Each column has been labeled with the appropriate dependent variable.

TABLE 7

Net Influence of Social Origins and High School Background On the Number of Skills Tests Passed, By Level of Entry

PREDICTORS	Impact on Number of Skills Tests Passed: BA Regular Entrants	Impact on Number of Skills Tests Passed: AA Regular Entrants
Women (compared to men)	- .1	- .1
Blacks (compared to whites)	- .4 *	- .6 *
Hispanics "	- .6 *	- .8 *
Asians "	- .4 *	- .3 *
On Welfare	- .2	-0.0
Family Income below $12,500 (compared to above $25,000)	- .4 *	- .4 *
Family income between $12,500 and $25,000 (compared to above $25,000)	- .1 *	- .2 *
High School Average**	+ .03*	+ .03*
Total Academic Units***	+ .07*	+ .04*

* The difference between the group shown in the predictor column and the relevant comparison group is statistically significant.

** The statistics reported in this row give the number of skills tests associated with a difference of a point of high school average. Thus, among BA regulars, a 10-point difference in high school average is associated with a difference of .4 skills tests passed (10*.04).

*** The statistics reported in this row give the number of skills tests associated with a difference of 1 academic unit earned. Therefore among BA regulars, a 5-point difference in academic units is associated with a difference of .4 skills tests passed (5*.08).

TABLE 8

Net Influence of Social Origins, High School Background, And Academic Ability on Cumulative GPA, by Level of Entry

PREDICTORS	Impact on Cumulative GPA: BA Regular Entrants	AA Regular Entrants
Women (compared to men)	+ .2 *	+ .3 *
Blacks (compared to whites)	- .2 *	- .1 *
Hispanics "	- .2 *	0.0
Asians "	0.0	+ .3 *
On Welfare	- .3 *	- .1 *
Family Income below $12,500 (compared to above $25,000)	- .1	- .1
Family income between $12,500 and $25,000 (compared to above $25,000)	0.0	- .1
High School Average**	+ .04*	+ .04*
Total Academic Units***	+ .02*	.00
Reading Skills Test Score****	+ .01	.0
Writing Skills Test Score****	.04*	.02
Math Skills Test Score****	.01*	.03*
Works Full Time (compared to Part time or no work)	- .1	.2 *

* The difference between the group shown in the predictor column and the indicated comparison group is statistically significant.

** The statistics reported in this row give the number of units of letter grade associated with each point of high school average. For BA regulars, a 10-point difference in high school average is associated with .4 of a letter grade (10*.04).

*** The statistics reported in this row give the number of units of letter grade associated with each academic unit earned in high school.

**** The statistics reported in this row give the number of units of letter grade associated with each point earned on the skills test.

TABLE 9

Net Influence of Social Origins, High School Background, Academic Ability and Cumulative GPA on the Likelihood of Persistence, By Level of Entry

PREDICTORS	Impact on the Likelihood of Persistence: BA Regular Entrants	Impact on the Likelihood of Persistence: AA Regular Entrants
Women (compared to men)	+ .3%	+ 3.0%
Blacks (compared to whites)	+ 5.6	+ 3.8
Hispanics "	+ 1.8	+ 1.5
Asians "	- .8	+ 1.0
On Welfare	- 8.2	- 3.1
Family Income below $12,500 (compared to above $25,000)	+ 3.9	+ 2.4
Family income between $12,500 and $25,000 (compared to above $25,000)	+ 3.9	+ 1.6
High School Average**	+ .2	+ .5 *
Total Academic Units***	+ .2	+ .2
Reading Skills Test Score****	- .3	- .2
Writing Skills Test Score****	+ .4	0.0
Math Skills Test Score****	+ .3	+ .1
Works Full Time (compared to Part time or no work)	-10.5*	-10.8 *
GPA @	+25.9 *	+20.0 *

* The difference between the group shown in the predictor column and the indicated comparison group is statistically significant.

** The statistics reported in this row give the percentage change in the probability of persisting associated with each point of high school average, all other predictors held constant.

*** The statistics reported in this row give the percentage change in the probability of persisting associated with each academic unit earned in high school, all other predictors held constant.

**** The statistics reported in this row give the percentage change in the probability of persisting associated with each point earned on the skills test, all other predictors held constant.

@ The statistics reported in this row give the percentage change in the probability of persisting associated with a difference of a letter grade, all other predictors held constant.

TABLE 10

Net Influence of Social Origins, High School Background, Academic Ability and Cumulative GPA on the Likelihood Of Graduation, by Level of Entry

PREDICTORS	Impact on the Likelihood of Graduation: BA Regular Entrants	AA Regular Entrants
Women (compared to men)	+ 5.6% *	+ 2.6%
Blacks (compared to whites)	- 5.3	0.0
Hispanics "	- 9.0 *	- 4.5 *
Asians "	- 2.7	- 5.7 *
On Welfare	- 3.9	- 2.7
Family Income below $12,500 (compared to above $25,000)	[illegible].3	+ 1.8
Family income between $12,500 and $25,000 (compared to above $25,000)	0.0	+ 1.4
High School Average**	+ .6 *	+ 0.7 *
Total Academic Units***	+ .6	0.0
Reading Skills Test Score****	0.0	+ .2
Writing Skills Test Score****	+ .8	+ .8
Math Skills Test Score****	+ .1	+ .3 *
Works Full Time (compared to Part time or no work)	-16.5 *	-14.2 *
GPA@	+18.9 *	+17.0 *

* The difference between the group shown in the predictor column and the indicated comparison group is statistically significant

** The statistics reported in this row give the percentage change in the probability of graduating associated with each point of high school average, all other predictors held constant.

*** The statistics reported in this row give the percentage change in the probability of graduating associated with each academic unit earned in high school, all other predictors held constant.

**** The statistics reported in this row give the percentage change in the probability of graduating associated with each point earned on the skills test, all other predictors held constant.

@ The statistics reported in this row give the percentage change in the probability of graduating associated with a difference of a letter grade, all other predictors held constant.

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APPENDIX

In the body of this report we have considered university-wide persistence rates and student background characteristics that are associated with persistence rates. However, as we mentioned earlier, the seventeen CUNY colleges whose students are studied differ greatly in the composition of the student body. Some colleges enroll predominantly low-income students who enter college not prepared fully for college-level work. Other colleges enroll more students with better academic preparation and the financial resources to help them through their college career. College persistence rates should be viewed in light of the social and educational characteristics described above.

Table A1 shows University-wide five-year persistence rates in increments of one year. Table A2 presents persistence rates and aggregate measures of three important background characteristics of the 1980 entrants at the seventeen colleges. The mean high school average in academic courses has been calculated as a summary measure of performance. Academic underpreparation is represented by the percentage of students who failed two or more of the three freshman skills assessment tests. Economic disadvantage is indicated by the percentage of students with household incomes below $12,500.

Tables B1 through B17 show the five-year persistence rates for each CUNY college that enrolls undergraduate students. Data for 1978 and 1980 entering freshmen are presented for comparative purposes.

In all tables, data are shown separately for each program category at the college: BA regular, BA SEEK, AA regular, AA College Discovery.

TABLE A1

Five Year Persistence Rates for 1978 and 1980 Freshmen Cohorts

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
BA Regular[1]						
One year	88.3%	89.4%	0%	0%	88.3%	89.4%
Two years	68.8	67.9	0.2	0.1	69.0	68.0
Three years	55.6	54.8	1.5	1.2	57.1	56.0
Four years	35.5	37.5	15.1	12.4	50.6	49.9
Five years	17.4	19.1	29.6	27.3	47.0	46.4
SEEK[2]						
One year	86.3	87.7	0	0	86.3	87.7
Two years	59.1	58.6	0	0	59.1	58.6
Three years	39.1	40.0	0.4	0.2	39.5	40.2
Four years	28.2	30.7	2.0	1.3	30.2	32.0
Five years	19.5	21.8	6.6	5.9	26.1	27.7
AA Regular[3]						
One year	70.2	82.3	0	0	70.2	82.3
Two years	49.9	51.0	4.1	3.6	54.0	54.6
Three years	24.0	27.0	15.5	13.7	39.5	40.7
Four years	13.1	15.2	20.5	19.5	33.6	34.7
Five years	8.3	9.3	23.3	22.7	31.6	32.0
College Discovery[4]						
One year	75.7	87.6	0	0	75.7	87.6
Two years	56.9	58.1	0.7	0.8	57.6	58.9
Three years	30.8	33.6	8.6	8.2	39.4	41.8
Four years	15.1	15.1	14.5	16.0	29.6	31.1
Five years	7.5	7.5	17.3	18.8	24.8	26.3
Total University[5]						
One year	78.4	85.3	0.0	0.0	78.4	85.3
Two years	57.7	57.4	2.1	2.0	59.8	59.4
Three years	36.7	37.3	8.7	8.0	45.4	45.3
Four years	22.5	23.8	16.2	15.0	38.7	38.8
Five years	12.6	13.6	23.1	21.9	35.7	35.5

1 BA Regular: 1978 N = 9,217; 1980 N = 7,995
2 BA SEEK: 1978 N = 3,251; 1980 N = 3,105
3 AA Regular: 1978 N = 13,583; 1980 N = 13,952
4 AA College Discovery: 1978 N = 1,566; 1980 N = 1,391
5 Total University: 1978 N = 27,617; 1980 N = 26,443

TABLE A2

ENTRY CHARACTERISTICS AND FIVE YEAR PERSISTENCE
1980 FRESHMAN COHORT

LEVEL	COLLEGE	TYPE	N	MEAN HS AVG	% WITH INCOME UNDER $12500	% * UNDER-PREPARED	PERSISTENCE % RETAINED	% GRADUATED	% PERSISTED
SENIOR COLLEGES**	BARUCH	REGULAR	1369	82.70	46.0	22.7	19.1	28.5	47.6
		SPECIAL	454	73.56	97.3	66.3	21.1	8.4	29.5
	BROOKLYN	REGULAR	1594	82.72	43.1	21.6	15.1	30.6	45.6
		SPECIAL	463	72.68	92.9	66.8	20.1	5.0	25.1
	CITY	REGULAR	891	83.07	54.5	35.7	26.3	22.8	49.0
		SPECIAL	573	72.94	96.6	74.7	27.9	2.1	30.0
	HUNTER	REGULAR	1116	82.81	51.1	31.1	22.7	19.3	41.9
		SPECIAL	472	74.12	93.0	74.6	24.8	5.5	30.3
	JOHN JAY	REGULAR	643	74.49	54.5	52.8	17.4	15.1	32.5
		SPECIAL	271	71.66	93.9	74.3	19.2	9.2	28.4
	LEHMAN	REGULAR	493	79.49	59.5	42.6	20.9	18.7	39.6
		SPECIAL	365	72.40	98.0	78.0	18.9	5.5	24.4
	NY CITY TECHNICAL	REGULAR	2648	73.56	70.0	75.0	8.3	21.9	30.2
		SPECIAL	227	71.16	97.3	81.8	2.2	20.7	22.9
	QUEENS	REGULAR	1733	84.15	24.4	9.9	16.4	36.5	52.9
		SPECIAL	371	73.12	93.8	55.4	21.8	7.8	29.6
	STATEN ISLAND	REGULAR	1287	74.08	46.1	41.0	12.2	18.1	30.3
		SPECIAL	101	71.30	88.6	59.0	11.9	10.9	22.8
	YORK	REGULAR	315	76.76	69.8	64.5	22.5	10.5	33.0
		SPECIAL	181	70.99	96.3	84.3	12.7	3.9	16.6
TOTAL SENIOR COLLEGES			15567	78.39	63.3	44.0	17.0	20.6	37.5

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* UNDER-PREPARED IS DEFINED AS FAILING TWO OR MORE OF THE THREE INITIAL SKILLS ASSESSMENT TESTS

** JOHN JAY, STATEN ISLAND, AND MEDGAR EVERS INCLUDE AA AND BA ADMISSIONS
NEW YORK CITY TECHNICAL INCLUDES ONLY AA ADMISSIONS

N/A DATA ON FRESHMAN SKILLS TESTS WERE UNAVAILABLE FOR BA STUDENTS AT MEDGAR EVERS

ENTRY CHARACTERISTICS AND FIVE YEAR PERSISTENCE
1980 FRESHMAN COHORT

LEVEL	COLLEGE	TYPE	N	MEAN HS AVG	% WITH INCOME UNDER $12500	% * UNDER-PREPARED	PERSISTENCE % RETAINED	PERSISTENCE % GRADUATED	PERSISTENCE % PERSISTED
COMMUNITY COLLEGES**	BRONX COMMUNITY	REGULAR	1125	72.10	83.3	79.1	13.6	12.8	26.4
		SPECIAL	203	70.67	91.3	82.2	9.9	14.8	24.6
	MEDGAR EVERS	REGULAR	220	73.26	75.3	100.0	13.2	20.5	33.6
		SPECIAL	77	69.71	100.0	100.0	15.6	16.9	32.5
	HOSTOS COMMUNITY	REGULAR	780	72.16	95.8	72.4	8.3	15.4	23.7
		SPECIAL	83	70.62	94.9	80.8	6.0	24.1	30.1
	KINGSBOROUGH COMM.	REGULAR	2075	73.70	55.9	54.5	6.8	33.6	40.4
		SPECIAL	144	70.80	94.7	76.6	6.3	16.0	22.2
	LAGUARDIA COMMUNITY	REGULAR	2061	73.24	74.5	71.2	6.4	28.2	34.6
		SPECIAL	201	71.04	94.1	84.6	6.5	30.3	36.8
	MANHATTAN COMMUNITY	REGULAR	1376	72.47	80.4	74.1	10.2	16.2	26.5
		SPECIAL	191	70.91	97.7	81.5	5.2	15.2	20.4
	QUEENSBOROUGH COMM.	REGULAR	2221	73.36	47.1	47.0	9.9	26.1	36.0
		SPECIAL	119	70.75	96.2	72.6	4.2	24.4	28.6
TOTAL COMMUNITY COLLEGES			10876	72.87	71.9	64.4	8.8	23.9	32.6

* UNDER-PREPARED IS DEFINED AS FAILING TWO OR MORE OF THE THREE INITIAL SKILLS ASSESSMENT TESTS

** JOHN JAY, STATEN ISLAND, AND MEDGAR EVERS INCLUDE AA AND BA ADMISSIONS
NEW YORK CITY TECHNICAL INCLUDES ONLY AA ADMISSIONS

N/A DATA ON FRESHMAN SKILLS TESTS WERE UNAVAILABLE FOR BA STUDENTS AT MEDGAR EVERS

TABLE B1

Persistence Trends 1978 - 1980: Baruch College

Regular

(1978 N = 1,340; 1980 N = 1,369)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	91.1%	92.2%	0%	0%	91.1%	92.2%
Two years	70.0	69.0	0	0	70.0	69.0
Three years	57.9	56.9	0.7	0.4	58.6	57.3
Four years	39.6	41.7	11.5	9.8	51.1	51.5
Five years	17.9	19.1	31.3	28.5	49.2	47.6

SEEK

(1978 N = 487; 1980 N = 454)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	82.8	88.3	0	0	82.8	88.3
Two years	47.6	48.2	0	0	47.6	48.2
Three years	31.4	34.1	0.6	0.2	32.0	34.3
Four years	26.3	29.3	2.3	0.9	28.6	30.2
Five years	18.5	21.1	5.7	8.4	24.2	29.5

TABLE B2

Persistence Trends 1978 - 1980: Brooklyn College

Regular

(1978 N = 1,810; 1980 N = 1,594)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	89.8%	86.8%	0%	0%	89.8%	86.8%
Two years	72.5	65.1	0.1	0.1	72.6	65.2
Three years	59.6	52.5	1.2	2.3	60.8	54.8
Four years	33.6	33.2	19.4	15.6	53.0	48.8
Five years	14.1	15.1	33.0	30.6	47.1	45.7

SEEK

(1978 N = 518; 1980 N = 463)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	88.6	88.8	0	0	88.6	88.8
Two years	56.9	59.2	0	0	56.9	59.2
Three years	36.1	34.8	0.2	0	36.3	34.8
Four years	25.3	25.9	0.8	1.1	26.1	27.0
Five years	19.1	20.1	5.0	5.0	24.1	25.1

TABLE B3

Persistence Trends 1978 - 1980: City College

Regular

(1978 N = 1,032; 1980 N = 891)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	90.2%	91.6%	0%	0%	90.2%	91.6%
Two years	74.0	72.3	0.1	0.2	74.1	72.5
Three years	58.5	59.4	1.9	0.6	60.4	60.0
Four years	39.4	42.6	12.9	10.7	52.3	53.3
Five years	23.3	26.3	24.1	22.8	47.4	49.1

SEEK

(1978 N = 575; 1980 N = 573)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	85.2	87.8	0	0	85.2	87.8
Two years	64.5	63.9	0	0	64.5	63.9
Three years	41.4	45.9	0.2	0	41.6	45.9
Four years	31.3	33.2	0.9	0.5	32.2	33.7
Five years	21.9	27.9	4.5	2.1	26.4	30.0

TABLE B4

Persistence Trends 1978 - 1980: Hunter College

Regular

(1978 N = 1,089; 1980 N = 1,116)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	87.2%	90.9%	0%	0%	87.2%	90.9%
Two years	65.5	67.1	0	0.1	65.5	67.2
Three years	55.6	55.1	0.5	0.9	56.1	56.0
Four years	38.1	39.0	12.4	8.2	50.5	47.2
Five years	21 6	22.7	24.6	19.3	46.2	42.0

SEEK

(1978 N = 536; 1980 N = 472)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	86.6	89.4	0	0	86.6	89.4
Two years	64.7	67.4	0	0	64.7	67.4
Three years	45.9	47.7	0	0	45.9	47.7
Four years	32.5	36.0	0.9	0.8	33.4	36.8
Five years	23.3	24.8	4.3	5.5	27.6	30.3

TABLE B5

Persistence Trends 1978 - 1980: John Jay College*

Regular

(1978 N = 805; 1980 N = 643)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	82.7%	85.7%	0%	0%	82.7%	85.7%
Two years	63.6	56.6	0.2	0.5	63.8	57.1
Three years	43.9	42.5	1.4	1.1	45.3	43.6
Four years	28.2	27.7	9.6	6.8	37.8	34.5
Five years	15.0	17.4	18.6	15.1	33.6	32.5

Special Programs

(1978 N = 143; 1980 N = 271)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	83.9	88.9	0	0	83.9	88.9
Two years	66.4	62.7	0	0	66.4	62.7
Three years	51.0	42.8	0.7	0.7	51.7	43.5
Four years	34.3	32.8	5.6	3.0	39.9	35.8
Five years	14.0	19.2	19.6	9.2	33.6	28.4

*Both cohorts are similarly divided between BA (58%) and AA entrants (42%).

TABLE B6

Persistence Trends 1978 - 1980: Lehman College

Regular

(1978 N = 710; 1980 N = 493)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	85.8%	85.4%	0%	0%	85.8%	85.4%
Two years	62.1	65.1	0	0	62.1	65.1
Three years	50.0	49.3	0.3	0.4	50.3	49.7
Four years	37.5	33.1	8.3	7.3	45.8	40.4
Five years	21.1	20.9	20.8	18.7	41.9	39.6

SEEK

(1978 N = 386; 1980 N = 365)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	86.3	84.9	0	0	86.3	84.9
Two years	56.7	49.9	0	0	56.7	49.9
Three years	35.2	37.5	0	0.3	35.2	37.8
Four years	26.2	29.0	1.3	1.1	27.5	30.1
Five years	18.1	18.9	7.0	5.5	25.1	24.4

TABLE B7

Persistence Trends 1978 - 1980: New York City Technical College*

Regular

(1978 N = 2,563; 1980 N = 2,649)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	83.2%	79.2%	0%	0%	83.2%	79.2%
Two years	51.0	48.3	3.9	2.8	54.9	51.1
Three years	21.4	23.4	15.7	13.6	37.1	37.0
Four years	10.1	12.4	20.5	19.0	30.6	31.4
Five years	6.9	8.3	22.6	21.9	29.5	30.2

Special Programs

(1978 N = 272; 1980 N = 227)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	88.6	85.5	0	0	88.6	85.5
Two years	53.7	60.8	0.7	0.4	54.4	61.2
Three years	23.5	28.6	10.7	11.0	34.2	39.6
Four years	9.2	8.8	16.5	19.8	25.7	28.6
Five years	4.8	2.2	16.9	20.7	21.7	22.9

* All enrollments are for AA entrants.

TABLE B8

Persistence Trends 1978 - 1980: Queens College

Regular

(1978 N = 1,825; 1980 N = 1,733)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	91.1%	90.6%	0%	0%	91.1%	90.6%
Two years	74.2	72.8	0	0	74.2	72.8
Three years	63.5	59.0	0.9	0.8	64.4	59.8
Four years	37.8	38.3	22.0	17.9	59.8	56.2
Five years	14.8	16.4	42.1	36.5	56.9	52.9

SEEK

(1978 N = 289; 1980 N = 371)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	86.2	89.2	0	0	86.2	89.2
Two years	57.1	59.8	0	0	57.1	59.8
Three years	40.8	40.2	0	0.3	40.8	40.5
Four years	28.0	31.5	2.8	1.9	30.8	33.4
Five years	18.7	21.8	10.0	7.8	28.7	29.6

TABLE B9

Persistence Trends 1978 - 1980: College of Staten Island*

Regular

(1978 N = 1,006; 1980 N = 1,287)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	75.9%	81.8%	0%	0%	75.9%	81.8%
Two years	50.4	55.1	3.0	1.2	53.4	56.3
Three years	26.9	34.0	13.8	7.6	40.7	41.6
Four years	15.6	20.2	20.2	13.6	35.8	33.8
Five years	9.3	12.2	24.3	18.1	33.6	30.3

Special Programs

(1978 N = 204; 1980 N = 101)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	90.2	80.2	0	0	90.2	80.2
Two years	57.8	60.4	0.5	0	58.3	60.4
Three years	32.4	35.6	6.4	3.0	38.8	38.6
Four years	14.7	20.8	12.3	6.9	27.0	27.7
Five years	6.9	11.9	14.2	10.9	21.1	22.8

*With the exception of 137 BA entrants in 1980, all entrants are to AA programs.

TABLE B10

Persistence Trends 1978 - 1980: York College

Regular

(1978 N = 344; 1980 N = 315)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	83.1%	80.3%	0%	0%	83.1%	80.3%
Two years	58.4	49.2	0	0	58.4	49.2
Three years	39.2	36.2	0.6	1.0	39.8	37.2
Four years	29.4	31.4	3.5	2.9	32.9	34.3
Five years	18.9	22.5	12.8	10.5	31.7	33.0

SEEK

(1978 N = 169; 1980 N = 181)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	87.6	80.7	0	0	87.6	80.7
Two years	56.2	53.0	0	0	56.2	53.0
Three years	38.5	31.5	0	0	38.5	31.5
Four years	27.2	25.4	1.2	1.7	28.4	27.1
Five years	18.9	12.7	4.7	3.9	23.6	16.6

TABLE B11

Persistence Trends 1978 - 1980: Bronx Community College

Regular

(1978 N = 1,270; 1980 N = 1,125)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	79.4%	84.0%	0%	0%	79.4%	84.0%
Two years	51.4	54.9	0.6	0.4	52.0	55.3
Three years	27.8	34.4	4.7	4.4	32.5	38.8
Four years	17.0	21.6	9.3	9.6	26.3	31.2
Five years	9.6	13.6	12.0	12.8	21.6	26.4

College Discovery

(1978 N = 216; 1980 N = 203)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	89.8	85.7	0	0	89.8	85.7
Two years	65.3	64.5	0	0	65.3	64.5
Three years	35.2	43.3	4.6	3.0	39.8	46.3
Four years	15.3	19.7	10.6	10.8	25.9	30.5
Five years	7.9	9.9	14.8	14.8	22.7	24.7

TABLE B12

Persistence Trends 1978 : 1980: Medgar Evers College*

Regular

(1978 N = 226; 1980 N = 220)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	85.8%	87.7%	0%	0%	85.8%	87.7%
Two years	56.6	57.7	0.4	0.5	57.0	58.2
Three years	38.5	44.5	3.5	5.5	42.0	50.0
Four years	25.7	27.7	9.7	15.0	35.4	42.7
Five years	15.9	13.2	16.8	20.5	32.7	33.7

Special Programs

(1978 N = 134; 1980 N = 77)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	88.8	89.6	0	0	88.8	89.6
Two years	64.9	63.6	0	0	64.9	63.6
Three years	39.6	44.2	2.2	5.2	41.8	49.4
Four years	24.6	19.5	9.7	14.3	34.3	33.8
Five years	13.4	15.6	14.2	16.9	27.6	32.5

*In 1978 the majority of entrants (80) were in BA programs. By 1980, the majority (89) were admitted to AA programs.

TABLE B13

Persistence Trends 1978 - 1980: Hostos Community College

Regular

(1978 N = 304; 1980 N = 781)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	N/A	78.5%	N/A	0%	N/A	78.5%
Two years	51.6	49.0	1.6	1.3	53.2	50.3
Three years	29.3	26.8	6.6	7.3	35.9	34.1
Four years	19.7	14.5	9.2	12.4	28.9	26.9
Five years*	11.8	8.5	11.8	15.4	23.6	23.9

College Discovery

(1978 N = 99; 1980 N = 83)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	N/A	90.4	N/A	0	N/A	90.4
Two years	65.7	55.4	0	0	65.7	55.4
Three years	34.3	38.6	7.1	12.0	41.4	50.6
Four years	20.2	16.9	11.1	21.7	31.3	38.6
Five years*	12.1	6.0	11.1	24.1	23.2	30.1

* The college indicates a higher five-year graduation rate (16.8%) for 1978 regular students and a lower five-year retention rate for 1978 College Discovery. These differences occur because the initial 1978 database did not include all freshmen from the college.

N/A Comparable data are not available for this year.

TABLE B14

Persistence Trends 1978 - 1980: Kingsborough Community College

Regular

(1978 N = 2,311; 1980 N = 2,076)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	83.6%	86.0%	0%	0%	83.6%	86.0%
Two years	42.2	42.5	14.2	14.6	56.4	57.1
Three years	14.4	17.3	28.7	27.0	43.1	44.3
Four years	8.5	11.1	32.5	31.0	41.0	42.1
Five years	6.1	6.8	34.3	33.6	40.4	40.4

College Discovery

(1978 N = 136; 1980 N = 145)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	86.0	91.0	0	0	86.0	91.0
Two years	41.2	46.2	4.4	5.5	45.6	51.7
Three years	17.6	29.7	17.6	8.3	35.2	38.0
Four years	5.1	12.4	21.3	13.1	26.4	25.5
Five years	5.9	6.2	21.3	15.9	27.2	22.1

TABLE B15

Persistence Trends 1978 - 1980: LaGuardia Community College

Regular

(1978 N = 2,323; 1980 N = 2,061)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	N/A	77.8%	N/A	0%	N/A	77.8%
Two years	43.7	49.0	2.0	2.0	45.7	51.0
Three years	19.8	23.3	18.0	16.4	37.8	39.7
Four years	6.7	12.1	23.1	24.4	31.8	36.5
Five years	5.6	6.4	25.9	28.2	31.5	34.6

College Discovery

(1978 N = 164; 1980 N = 201)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	N/A	86.1	N/A	0	N/A	86.1
Two years	50.6	55.7	1.8	0	52.4	55.7
Three years	13.8	21.4	15.2	15.4	39.0	36.8
Four years	8.5	11.9	25.0	27.4	33.5	39.3
Five years	4.9	6.5	28.7	30.3	33.6	36.8

N/A Comparable data are not available for this year.

TABLE B16

Persistence Trends 1978 - 1980: Borough of Manhattan Community College

Regular

(1978 N = 1,469; 1980 N = 1,377)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	76.0%	83.4%	0%	0%	76.0%	83.4%
Two years	52.6	52.4	0.7	1.9	53.3	54.3
Three years	31.6	32.2	5.5	7.6	37.1	39.8
Four years	17.6	17.5	11.5	13.4	29.1	30.9
Five years	11.8	10.2	14.2	16.2	26.0	26.4

College Discovery

(1978 N = 324; 1980 N = 191)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	85.8	90.6	0	0	85.8	90.6
Two years	58.3	53.4	0	1.0	58.3	54.4
Three years	35.2	33.0	4.9	5.2	40.1	38.2
Four years	19.1	13.6	9.0	11.5	28.1	25.1
Five years	9.3	5.2	12.7	15.2	22.0	20.4

TABLE B17

Persistence Trends 1978 - 1980: Queensborough Community College

Regular

(1978 N = 2,373; 1980 N = 2,221)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	84.2%	86.4%	0%	0%	84.2%	86.4%
Two years	57.6	60.5	1.8	1.1	59.4	61.6
Three years	30.0	31.3	15.2	15.4	45.2	46.7
Four years	17.2	17.2	21.1	22.6	38.3	39.3
Five years	10.3	9.9	25.0	26.1	35.3	36.0

College Discovery

(1978 N = 165; 1980 N = 119)

	Retained		Graduated		Persisted	
	1978	1980	1978	1980	1978	1980
One year	92.1	89.1	0	0	92.1	89.1
Two years	64.8	63.0	0	0	64.8	63.0
Three years	40.6	37.0	9.1	11.8	49.7	48.8
Four years	23.0	12.6	17.6	21.0	40.6	33.6
Five years	9.1	4.2	23.0	24.4	32.1	28.6

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